

Working Papers No. 170/12

Adopting the rights-based model: music multinationals and local music industries since 1945

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September 2012

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ABSTRACT

This paper identifies four economic tendencies that shaped the development of the international recorded music industry since 1945: the importance of endogenous sunk costs led to a quality race; the fact that marginal revenue equalled marginal profit led to extreme vertical integration; the quasi-public good character of music—its non-diminishability but partial excludability—led to a sharply unequal income distribution among stars and the pioneering of new business models to transform consumer into producer surplus; and finally, the project-based character of music production led to decentralised agglomeration. What can be characterised as rights-based multinationals emerged as a response to these forces. They married extreme vertical integration and a portfolio of A&R labels having limited economies of scale and scope, with a global distribution and marketing machine. This paper tries to explain how they emerged and how they can explain increasing industrial concentration in the face of sharp growth of the market and of musical diversity.

A revised version of this paper will be forthcoming in *Popular Music History*

¹ Previous versions of this paper benefitted from comments at the workshop on the history of the music industry at St Andrews University, at the research seminar in music studies at Kingston University, at the Institute of Historical Research in London and at the University of Sussex. The research for this paper was partially funded by the Economic and Social Research Council (U.K.) and the Advanced Institute of Management Research under the ESRC/AIM Ghoshal Fellowship Scheme, grant number RES-331-25-3012.

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1. Introduction

After the Second World War, the recorded music industry grew rapidly. Demand increased sharply, bolstered by the emergence of more affluent and more highly educated young people with more leisure time. On the supply side, new recording formats, more music on radio after television, a proliferation of radio stations and musical styles sharply improved the perceived quality of recorded music that was available. Despite an enormous market growth and despite a sharp increase in musical diversity, a handful of multinationals proved best able to arbitrate between the supply and demand factors and came to dominate the international music industry.

This paper examines this remarkable post-war transformation of the music industry, and draws inferences by analysing changes in the very long-run. It aims to address three key questions:

- What forces shaped the long-run development of the recorded music industry since 1945 and how can we understand these forces?
- How did organisations emerge out of this change, chaos, disruption and turmoil, how can we characterise them and how did they work?
- How can we explain the joint puzzle of increasing long-run industrial concentration going hand in hand with, first, a sharply growing market, and second, with increasing diversity, product differentiation and market segmentation?

These questions are important because they allow us to investigate an intriguing link between general changes in the business environment and how they get expressed in organisations. Often, separate papers deal with a historical analysis of the general economic forces on the one hand, and the development of organisations on the other. This paper tries to look at the interactions. Second, little has been written within economic and business history on the music industries, while they formed a fast-growing internationally integrated sector, whose importance to society seems to have been far larger than its growing output share.³ Third, the puzzle of concentration and diversity is a much studied one, and economic history might help increase our knowledge of the puzzle. The paradox of a sharply growing market and increasing concentration in the music industry has been far less studied, but appears at least as important. The general mechanism has been discussed extensively in economics.⁴ Fourth, an overarching economic conceptual framework may help us understand the music industry's evolution and see it with new eyes.

In this paper we will not deal with the effect of internet technology on the recorded music industry in the last ten years or so, on which many papers have been written already. Also, we will focus on the music industry internationally, with an emphasis on the US market, as it was by far the largest music market in the world. Methodologically, this paper is based on historical research on the history of multinationals in the recorded music industry and the history of the industry in general. Also, since it focuses on a long-run analysis, over more than five decades since 1945, it tries to explain shifts in the very long-run, not shifts that happened in a

³ Exceptions are Jones (1985); Mabry (1990); Martland (1992); Bakker (2006); Bakker (2010); Gourvish and Tennent (2010); Coopey (2011).

⁴ See below.

few years. Third, the paper will use both a qualitative and a descriptive-quantitative approach. Finally, the inferences in the paper are largely based on economic concepts and reasoning.

The structure of this paper is as follows: first we will identify and discuss four economic tendencies that shaped the development of the music industry since 1945, subsequently we will examine how these tendencies led to the emergence and survival of multinationals using a rights-based organisational structure, third we will examine in detail how they organised their A&R activities in a federated structure. Finally, we will try to infer from our historical investigation the essence of the rights-based multinational.

2. Underlying economic tendencies driving the industry's evolution

This section identifies four major economic tendencies that drove the evolution of the recorded music industry since 1945 and shaped the climate in which the rights-based multinationals emerged. This paper argues that these tendencies created new profit opportunities that were spotted first by a few companies which, while developing the business model that would allow them to transform these opportunities into profits, developed into rights-based multinationals. Thus, the rights-based music multinationals arose as the result of entrepreneurs arbitraging the opportunities that emerged through the rapidly changing business environment. The question why just a few organisations managed to perform this arbitration successfully is examined in the subsequent two sections, which discuss the organisational implications of these four tendencies.

The four major tendencies that we have identified are: the importance of endogenous sunk costs, the fact that marginal revenues largely equalled marginal profits, recorded music's quasi-public good character and, finally, its project-based nature.⁵ These currents have determined the industry's evolution since 1945. For each of these four trends, this section identifies the underlying economic characteristic, its dynamic implication and then assesses how the latter expressed itself historically.

First, a key economic characteristic of the music industry was that many costs were endogenous sunk costs: the costs were incurred once and could not be recovered when leaving the industry, and the entrepreneurs could decide the level of costs to incur: this level not being dictated by technology. Examples are marketing, recording and A&R expenditures and, outside the music industry, advertising and research and development (R&D).⁶

The dynamic implication of endogenous sunk costs is what we call a quality race, a market phase in which some firms escalate their sunk outlays in order to obtain a larger market share. While in other industries the lower bound to industrial concentration may fall to zero as the market size increases, because there is 'room' for more companies to enter the market, in some endogenous sunk costs industries concentration is bounded from below when market size grows to infinity, and does not converge to zero.⁷ In other words, concentration goes up, not down, as the market gets larger.

⁵ A more general discussion of these four tendencies in the creative industries in general can be found in Bakker (2012).

⁶ Bakker (2005).

⁷ Sutton (1991; 1998).

Market growth in such industries raises profits for any given quality level, making room for new entrants, but also stimulating firms to raise their R&D investments e.g. film production outlays, to improve their quality level: while the marginal cost of an increase in R&D-spending is unchanged, the marginal benefit from it is now higher, leading to higher fixed sunk costs and limiting the number of firms as the market tends to infinity. Which of the two effects has the upper hand depends on the distribution of the willingness-to-pay and shape of R&D-costs associated with quality improvements.⁸

Quality races such as the rise of the feature film in the mid-1910s have happened at various points in the entertainment industry's development. In the 1970s, for example, a new quality race started in motion pictures when the ailing Hollywood studios focused on blockbuster movies that were heavily marketed and advertised on television, starting with *Jaws* in 1975. In the music industry a quality race was triggered in the 1950s by a confluence of largely exogenous demand and supply factors. After the quality race had started, the race in itself started to stimulate further development of demand and supply.

Demand for recorded music had increased dramatically in almost every part of the world since 1945. This trend was largely driven by the increasing affluence, education, and leisure time of teenagers. On the supply side, new recording formats, such as the long-playing record (LP), the 45rpm, audiocassette and stereo were introduced. General interest lowest-common-denominator radio programs moved to television, which led, first, to more music being played on radio, and second to more market segmentation, with many radio stations focusing on distinctive musical styles. The increasing variety of these musical styles was the third supply factor affecting the quality race.

On the demand side, then, the reward for offering a higher perceived quality had increased substantially, while the three supply side factors lowered the cost of generating, delivering and marketing this increased quality. The resulting profit opportunity led entrepreneurs to sharply increase expenditure on Artists and Repertoire (A&R), discovering, developing, recording and promoting talent. This happened both through vertical product differentiation, with entrepreneurs and firms spending heavily on buying and developing promising or already popular acts, and through horizontal product differentiation, in which larger firms liked to have various different musical styles for different segments through a wide range of different labels and acts.

Although precise systematic information on industry A&R expenditure is unavailable for the 1950s, it is possible to construct a proxy for the revenue-generating capacity of music by dividing the US recorded music sales by the number of copyrights registered for musical compositions (Figure 1). Real revenue per copyright jumped in the mid-1950s, clearly indicating the start of an escalation phase, and kept growing almost continuously, with a slight lull in the early 1960s. Real revenue per music copyright increased almost four-fold between 1955 and 1970, from about \$28,000 per new right to \$96,000, a phenomenal average annual real growth of about nine per cent. Both revenue over new copyrights (the copyright registered in the particular year) and revenue over all musical composition copyrights ever registered showed the same trend.

⁸ Bakker (2005).

The second tendency follows from the first. When entertainment products such as film tickets, music recordings or video games are sold, all development costs have already been incurred and marginal revenue therefore largely equals marginal (gross) profit. The marginal costs to a distributor of selling an additional CD to a retailer are small, making the marginal revenue of that sale almost equal marginal gross profit. Likewise, the marginal costs for a retailer for selling an additional CD are small, making marginal revenues largely equal marginal profits. With digital technology, marginal distribution costs have declined even further.

Low marginal costs should lead to very low prices, and thus an inability to incur large fixed and sunk costs, were it not that companies are granted a monopoly through copyright law, and can use price discrimination to optimise the transfer of some of the consumer surplus into revenue.

In an unintegrated value-chain in which master recordings are sold outright, the label manager or record producer's incentive to increase quality is limited by the fact that s/he will not get any of the marginal revenues that their product generated for the distributor and for the retailer. The classic solution has been vertical integration or the use of revenue-sharing contracts. This construction aligns the interests of the participants in the various segments of the value chain, and so makes sure that marginal retail revenues reach the producer and artists, and this in turn gives the producer the incentive to make marginal improvements in product quality that will lead to additional sales, and thus more profits, also for the producer.

Besides stimulating vertical integration, standard industrial organisation theory suggests that constant or falling marginal costs lead to an excessive number of firms. Together with low exogenous costs this can lead to an enormous product variety and a dual market structure. In the music industry, for example, there was a highly concentrated market for mainstream music, while low exogenous sunk costs and low marginal costs led to excessive entry in a second, separate, fragmented market with an almost infinite variety of firms, artists and music, each having a small market share.⁹ The latter market appears characterised by monopolistic competition: price is above the competitive level, but firms do not make economic profits.¹⁰

Low marginal costs also lead to the word-wide exploitation of the results of sunk costs, even in tiny markets. However small the revenue, since marginal costs are extremely low, selling in those markets may still be profitable.

The third tendency that shaped the industry's evolution is that throughout time, music acquired ever more the character of a quasi-public good. It became ever more nondiminishable (nonrivalrous), but remained excludable. In a concert hall, for example, until capacity was filled, one additional person would not diminish the entertainment available to others, while one additional consumer of bread did diminish the quantity available.

An almost continuous series of technological improvements made music even less diminishable. Sharp rises in concert hall capacity through steel-frame construction, and later recorded music and film massively increased the audience a performer could reach. Not only radio, television and internet would increase this even further, but also 'older' technologies such

⁹ Mezas and Mezas (2000) borrow the term resource partitioning from biology to study phenomena not unlike both dynamic product differentiation and dual market structure discussed here.

¹⁰ Chamberlin (1933); Robinson (1933).

as jet travel and large-scale stadiums. Between 1981 and 2003, for example, the top-1 per cent of live rock music performers received between 30 and 50 % of the total ticket revenue.¹¹

Yet music forever remained a *quasi*-public good: nondiminishable but excludable, unlike a pure public good such as national defence. Throughout the history of the music industry, entrepreneurs therefore developed business models that kept price above marginal costs by making them own the point where consumers could get excluded and extract all rents there. Five major business models were important.

First, the entrepreneur could exclude visitors from a concert hall and so charge a price. They could physically exclude people and use their right to set prices to price-discriminate among visitors. Second, copyright allowed entrepreneurs a monopoly on their product.

Third, the star performers themselves were an important group of entrepreneurs, who could withhold their services and thus exclude people, depending on the extent of their talent. Industrialisation made their performances tradable, and so increased stars' earning capacity. The result was a very unequal distribution of income among the top performers, although we are lacking statistics to compare whether this was more unequal before or after the arrival of recorded music as a principle source of income for stars.¹² The sharply unequal income distribution has remained a property of many media industries ever since. This made it also increasingly expensive for new music companies to recruit top talent. Entrepreneurs adopted various business models to mitigate this value capture by the stars. In the past often asymmetric multiple-record contracts were signed, and nowadays with revenues from recorded music sales diminishing, large record companies sometimes sign '360-degree contracts', in which they share all of the artists' revenues through all channels, including live performance and appearances in advertisements.¹³

Fourth, production of diminishable goods such as merchandising that could be sold at a premium were used to generate revenue. Fifth, collusion could be a means of exclusion. During the 1950s, for example, Deutsche Grammophon Gesellschaft and Philips' Phonografische Industrie (Philips Phonographic Industries), two major European record companies that would later merge into PolyGram, had a far reaching formal agreement, in which they agreed not to bid against each others artists or bid jointly for new artists.¹⁴

The long-run changes in the public-good nature of music have become exemplified by the fact that nowadays album sales have diminished and become less excludable because of copying technologies. The new business model depends on the remaining excludable parts, such

¹¹ Krueger (2005:14). Bakker (2012) shows how technological change in the film industry since the 1890s had a broadly similar effect.

¹² Bakker (2001); Rosen (1981).

¹³ Something similar happened in the film industry, where in the 1910s the Hollywood studios introduced asymmetric long-term ('seven year') contracts that allowed them to keep stars' pay limited when they became successful, European firms often used revenue-sharing contracts, which limited cash-costs, as pay-outs were only made when cash was coming in. In the late 1940s, seven-year contracts became unenforceable and a mix of advance payments and revenue-sharing is now widely used. See Bakker (2008).

¹⁴ In the nineteenth century the global news agencies used detailed collusive agreements as well, to exclude non-payers (Bakker 2011). Within motion pictures, in the 1920s the Hollywood studios formed a cartel and jointly monopolised resources, preventing any firm to bid up star pay. Since the US Supreme Court ended collusion and 7-year contracts in 1948, star pay has risen sharply.

as live concerts, diminishable goods such as T-shirts or deluxe CD-editions, or renting out artists to advertise other diminishable goods.¹⁵

Diagram 1 Economic tendencies in the development of the post-war recorded music industry.

Economic characteristic	Dynamic implication	Historical expression
Sunk costs	Quality race	Mid-1950s to 1970s: escalation of A&R expenditure, acquisitions and marketing outlays
Marginal revenue = marginal profits	Vertical integration	From 1950s: increasing integration mfg, recording, A&R, int. distribution and music publishing
Quasi-public good character (non-diminishable but excludable)	Exclusion-focused business models Income inequality (superstars)	Long-term artist contracts Copyright extensions since 1970s '360 degree deals' in 2000s
Project-based character	Agglomeration	Agglomeration of styles (e.g. Nashville, Chicago, Miami) and of music business (e.g. L.A. , New York, London).

We have discussed the importance of endogenous sunk costs leading to quality races, of marginal revenues equalling marginal profits leading to vertical integration, and of music's quasi-public good character leading to exclusion-centred business models and the economics of superstars (Diagram 1). We now turn to the fourth and final economic tendency: the project-based nature of recorded music production that led to its agglomeration in a limited number of places.

Each musical output, be it a composition, a performance or a record, is unique. The development of each output is a separate project with unforeseen contingencies, for which different creative, technical and commercial talent is assembled. Although every industry contains activities that are project-based, the proportion of it in music creation, as in most creative industries, is extreme (Diagram 2).¹⁶

¹⁵ Krueger (2005).

¹⁶ For an analysis of agglomeration effects of creative industries in general see Bakker (2010).

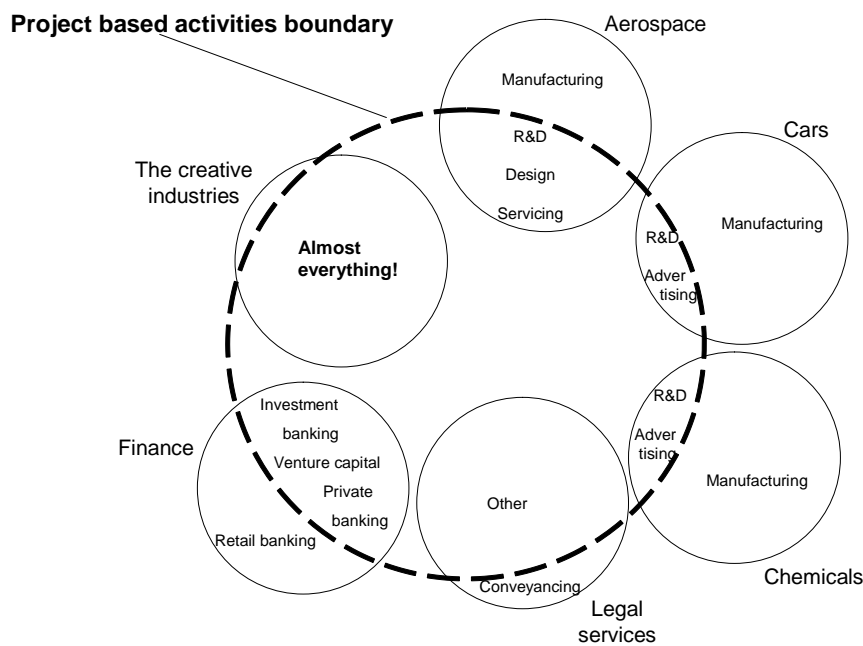


Diagram 2. Hypothetical representation of the boundaries of the project-based segments of the music industry and various other industries.

The dynamic implication of the project-based character is agglomeration. Each musical project benefits from other projects being organised in the neighbourhood, much in the same way as Alfred Marshall described agglomeration benefits: within industries, co-location creates a thick market for specialised inputs, external economies of scale in production as specialised firms lower costs by spreading them over more buyers, and knowledge spill-overs, as talent meets informally, circulates between firms and exchanges best practices and ideas.¹⁷

In addition, Janet Jacobs (1969) emphasised the importance of inter-industry externalities. Co-location of the music industry with *other* entertainment industries would yield similar benefits. In London, for example, music, film, radio, television and media financing companies may all benefit from being close to each other and therefore being able to better organise projects. Thus the agglomeration benefit spread at various different levels, and that makes them so important in the music industry.

One of many potential diagrammatic representations of these interlinked Marshallian webs (Diagram 3) shows how each creative industry—such as film, music, videogames—which consists of a self-reinforcing ring of (functional) sub-sectors, while the project-based industries together also form a self-reinforcing super-ring. They mesh into one self-reinforcing Marshallian superweb of knowledge spill-overs, external economies of scale and thick markets for specialised services.

¹⁷ See, for example, chapter 6 in Krugman and Obstfeld (2003).

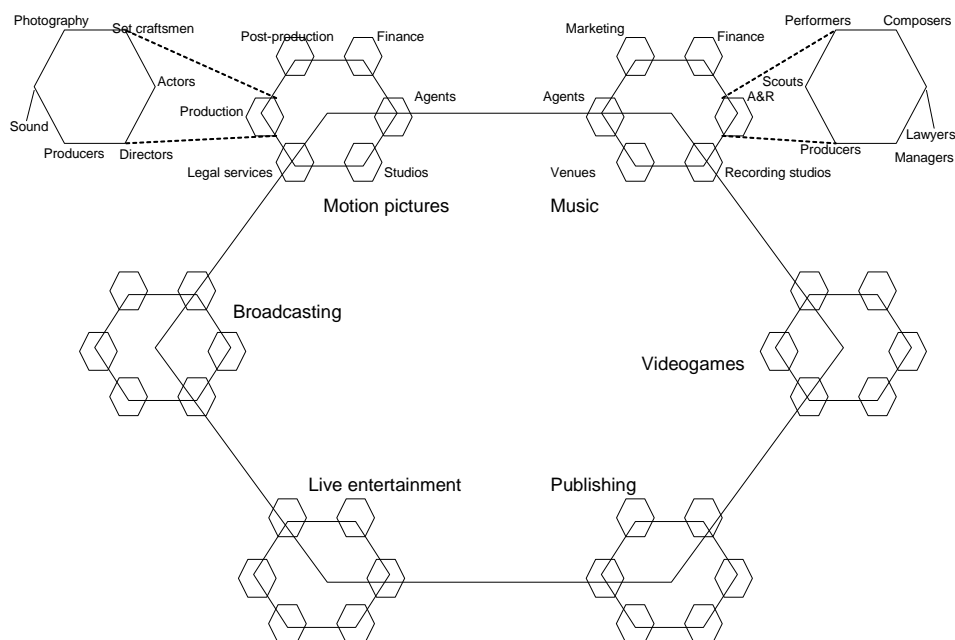


Diagram 3. Stylised representation of the interlinked intra- and inter-industry webs of project-based entertainment industries

Many economic textbooks emphasize the scale economies in industrial districts (see, for example, Krugman and Obstfeld 2003). The argument is as above that many firms together reduce over-all costs through the thickness of factor markets, external economies and knowledge spillovers. The first music label founded in Aberdeen, for example, may have a far lower quality/cost ratio than the average quality/cost ratio for London or New York based music labels. However, if hundreds of music labels would set up shop in Aberdeen all at once, the average quality/cost ratio might be far higher than in London or New York and a competing music district might emerge in Aberdeen. Yet because those first firms have far lower quality/costs ratios than the existing district, such a district does not emerge.

Evidence shows that media industries are among the industries in which agglomeration benefits are highest. British media services, for example, had an agglomeration productivity elasticity of 0.22, meaning that if a music district would grow with ten per cent, productivity would grow 2.2 per cent without having to increase inputs by more than ten per cent. This elasticity is about twice as large as the economy as a whole.¹⁸ A study of the London recorded music industry shows that despite technological innovations that facilitated business and creative contacts over long-distances, such as regular postal services, the telegraph, telephone, fax, and internet, knowledge spill-overs mainly emerge through frequent face-to-face contact, as that facilitates trust and informal knowledge exchange.¹⁹ A study by Scott (1999) finds evidence of strong agglomeration effects in the U.S. music industry, showing that New York and Los Angeles have a capacity to produce hit records that by far exceeds their relative significance in

¹⁸ Graham (2006: 6-7).

¹⁹ Watson (2008).

the number of recording companies, even after controlling for the presence of majors in those cities.²⁰

In music, then, agglomeration benefits have always been substantial, but not absolute. In Europe, capital cities were important locations. For most styles, location was part of the brand image, and the music industry therefore agglomerated not in one main location, like Hollywood, but in several separate locations, such as Nashville, Chicago or New York, with intra-industry agglomeration benefits for specific styles.

The project-based characteristic contributed to this differentiation of locations. Also, because an industrial district lowered set-up costs, it could again lead to 'excess' variety. This meant that both the importance of falling entry costs and the agglomeration benefits in music creation stimulated an excess number of artists, entrepreneurs and firms, and so excess variety. It is remarkable that despite this tendency towards an infinite number of suppliers and almost infinite variety, just a few colossal multinationals came to dominate the international music industry after 1945. To how this was possible we will now turn.

3. The long-run development of the international music industry

During the interwar years, the combined effect of radio, talking pictures, and the depression triggered a sharp decline in demand for recorded music. Unlike film, music expenditure was highly sensitive to changes in income and was one of the first items consumers dispensed with.²¹ Consequently, several music companies merged. In the 1920s, the Columbia Graphophone Company, a British firm, was the industry's major integrator. It bought its eponymous former U.S. parent as well as the German multinational Carl Lindstrom and the French multinational Pathé.²² In 1931 Columbia merged with the other British multinational, the Gramophone Company, to form EMI.²³ The German firm Deutsche Grammophon Gesellschaft (a forerunner of PolyGram), which had started as a subsidiary of the Gramophone Company but became independent in 1917, had a limited international presence.²⁴ Its overseas market declined during the Nazi period.²⁵ The United States counted two major record enterprises: the first, RCA Victor, a division of the Radio Corporation of America, was formed in 1929, when RCA bought the Victor Talking Machine Company.²⁶ The second, CBS Records, was owned by Columbia Broadcasting System (CBS).²⁷

The exception to the trend of interwar decline and retreat was Decca Records of Britain. Decca originated in the family firm Barnett Samuel & Sons, a maker of watches, steel pens, instruments, and music boxes founded in 1832. Beginning in 1910 and continuing through the

²⁰ Scott (1999).

²¹ Bakker (2010).

²² Jones (1985:93–97); Gelatt (1977: 257).

²³ Martland (1997).

²⁴ In 1917, the German assets of the Gramophone Company were seized by the German government and sold to local interests. See Martland (1997).

²⁵ Fetthauer (2000).

²⁶ Ibid.

²⁷ From 1938 onward; see Table 2. In 1931 American Columbia had been sold by its British owners to Grigsby-Grunow, a U.S. manufacturer of radios and refrigerators. In 1933 the latter went bankrupt and Columbia was bought by the American Record Corporation, an industry consolidator. Gelatt (1977: 255); Chanan (1994: 66).

1920s, it became a large manufacturer of portable gramophones. In 1929 it bought the ailing Duophone Record Co. and built it into the Decca record company. The driving force behind this diversification was investment banker Sir Edward Robert Lewis. Originally the firm's stockbroker, he became its major shareholder and eventually its chairman. In 1932 Lewis bought the U.S. record company Brunswick (which claimed Bing Crosby as its leading star) and made it into the American branch of Decca. Decca aggressively marketed a limited number of stars and sharply cut record prices on both continents, under the slogan "Leading Artists—Lower Prices", and also adopted the juke box as a major and profitable new business model. By the end of the 1930s, Decca had become the prime U.S. record company in popular music.²⁸ It was the only integrated record firm to grow rapidly during the depression years and challenged the incumbents on both sides of the Atlantic. Significantly, Decca was forced to divest its successful US subsidiary during the war.²⁹

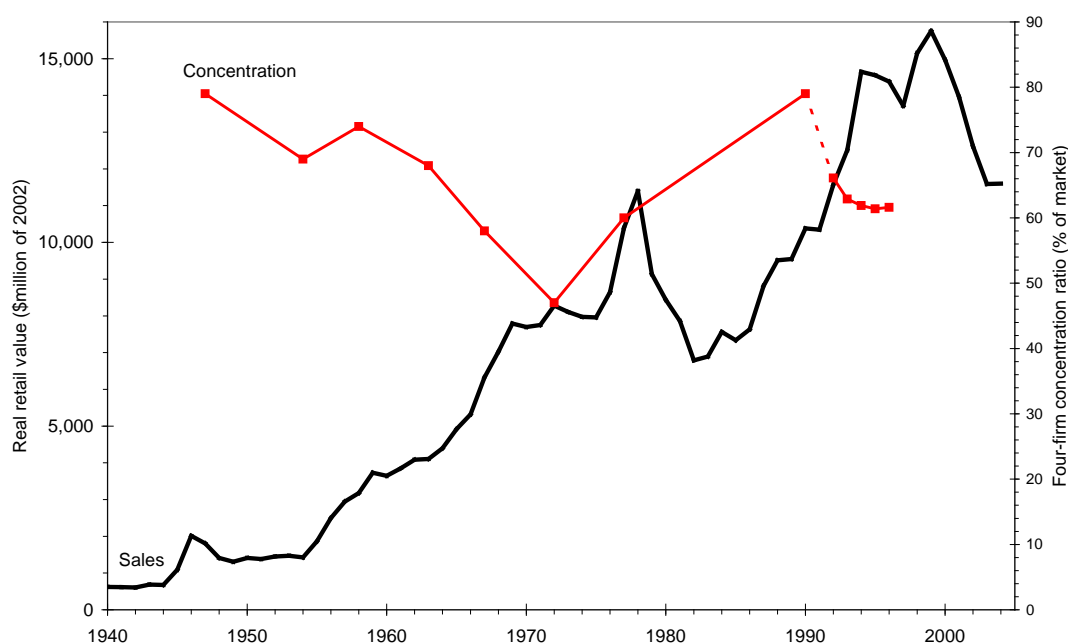


Figure 2. Real recorded music sales and industrial concentration, in real dollars and per centage of the market, United States, 1940-2005.

Note: the first part of the series of concentration data is from the US Bureau of the Census, the 1990s data from the trade press. These may not be fully comparable. Retail sales have been deflated using the U.S. consumer price index deflator as reported by Officer (2009).

Sources: Recording Industry of America; Harker (1980: 223-224); IFPI (1990: 61); Vogel (2004: 505).

After the Second World War demand for music increased significantly. In the United States, it grew at the rate of 6 per cent per annum in real terms between 1945 and 2001, and at the rate of 10 per cent annually between 1945 and 1978 (Figure 2). Major growth spurts occurred in the periods 1955-1959, 1964-1969, 1976-1978, and 1984-1994. In Britain, the music market expanded at a rate of 9 per cent per year between 1955 and 1978 (Figure 3).³⁰ It experienced

²⁸ Davenport (1985: 757-60).

²⁹ See also Bakker (2010).

³⁰ For a business history analysis of the UK music industry see Ibid.

growth spurts from 1952-1957, 1963-1964, 1969-1973, 1977-1978, 1983-1989, 1993-1996 and 1999-2001.³¹

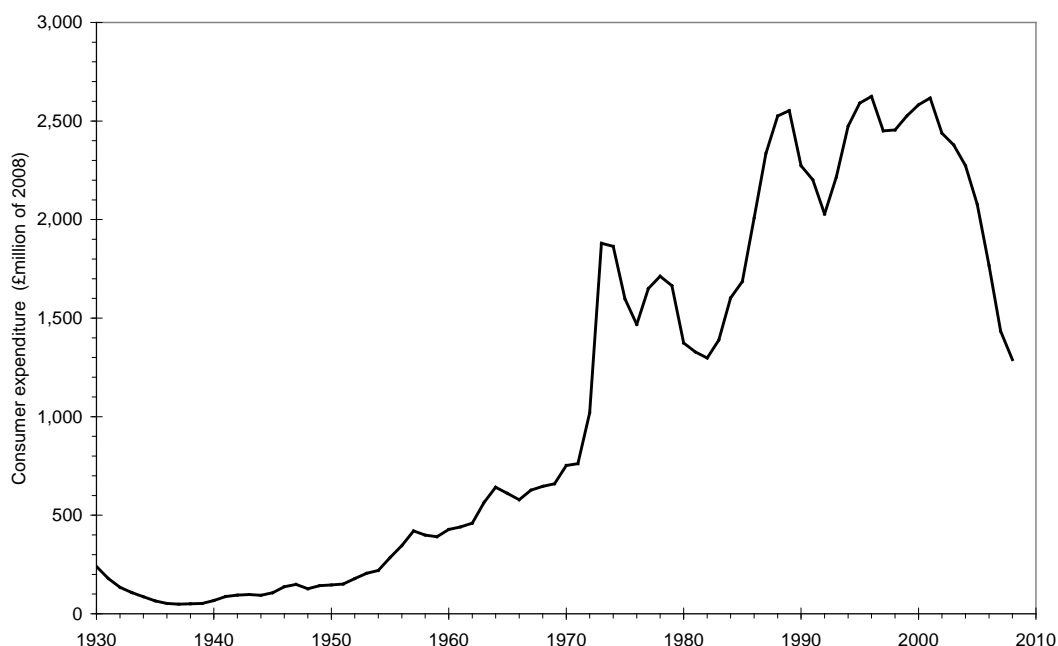


Figure 3. Real UK music expenditure, 1930-2009, in million of real pounds.

Note: Expenditure has been deflated using the U.K. retail price index deflator as reported by Officer (2011).

Sources: "The demand for Gramophone records. A review of Gramophone record sales between the years 1905 and 1951," Controller's Department - Economics Section, 1 August 1952; Managing Director Minutes, "Statistics mailed to Statistical Department," EMI Archives, Hayes, Middlesex; British Phonographic Industry Association; Entertainment Retailers Association Yearbooks, as reported in Bakker (2010: 52).

Most other Western countries showed similar real growth rates.³² As the market widened, new distribution channels were added, such as convenience-store racks, record clubs, and superstores. These in turn further enlarged the market in a self-reinforcing process. After television had taken over expensive programming for mainstream mass audiences, radio stations increasingly programmed music (which was relatively inexpensive) for narrower audience segments.³³ Because distribution capacity had expanded and the market had become more sizable, musical products no longer had to appeal exclusively to the lowest common denominator. Their increased differentiation caused the market to be sliced up even more. In an interactive process, this stimulated the development of distinctive musical styles, initiating and encouraging further compartmentalisation of the market.

In attracting so many new entrants, the industry's pronounced market growth initially dissipated its concentration. In the United States during the 1950s, for example, most Hollywood studios set up record subsidiaries, and many other entrepreneurs entered the field.³⁴ The market share of the four largest firms—CBS, RCA, Decca, and Capitol—fell from 79 per

³¹ For a brief business and economic-historical analysis of the recorded music industry in Britain, see Bakker (2013).

³² Harker (1980: 223–27). Nominal market size, in current dollars and pounds, has been deflated using the consumer price index for both countries.

³³ Peterson and Berger (1975: 158–73, esp. 164–65).

³⁴ Ibid.

cent in 1947 to 47 per cent in 1972 (Figure 1).³⁵ Three factors, however, had a countervailing effect on concentration while simultaneously stimulating multinationalisation.³⁶

First, the expanded market increased the value of the rents generated by copyrights, thus adding an incentive to maximise and capture them.³⁷ Therefore, companies turned away from exports and licensing—which had become prevalent between the wars—in order to conduct transactions within the firm; they went about this by setting up their own foreign subsidiaries, just as they had done between the 1900s and the 1920s.³⁸

Second, rapid market growth added an incentive to create new copyrights, which increased the value of A&R companies that specialised in this activity. Vertical integration between such companies and international distributors benefited both parties because the broader range of musical genres required more finely tuned, specialised marketing knowledge, which made both activities more dependent on each other. A highly specific distribution and marketing organisation had little value without good music, and vice versa.³⁹

A third factor was that greater product differentiation and a more stratified market made it more difficult to start foreign A&R companies from scratch. These three factors helped to accelerate national and international merger-and-acquisition activity (Tables 1 and 2) and eventually forced the industry to become more concentrated.

In the United States, for example, after 1972 the concentration ratio of the four largest firms rose again nearly as sharply as it had fallen (Figure 1). At that time, these firms were, in order of market share, CBS, Warner Music, RCA, and EMI/Capitol.⁴⁰ The ratio grew to between 60 and 70 per cent during the 1990s, when PolyGram, Warner Music, EMI, and Sony/CBS dominated, and it climbed even higher at the turn of the century.⁴¹ Paradoxically, as concentration increased, musical styles became more varied, a phenomenon that was encouraged by the emergence of a decentralised, “federated” structure for A&R activities. A few large multinationals became federations of dispersed, relatively small A&R organisations feeding into a global distribution organisation that guaranteed access to the market and captured rents.⁴²

³⁵ U.S. Bureau of the Census (1947, 1972).

³⁶ Undoubtedly, political factors also played a role. In the interwar years sharp ideological differences and declining artistic freedom inhibited music’s international transferability, while after the war the Western countries had become more aligned politically and ideologically.

³⁷ The idea of rents is important to understand the evolution and structure of music multinationals; it will be discussed briefly below.

³⁸ On the possibilities and limitations of transaction cost economics for analysing the music industry see Gander and Rieple (2004).

³⁹ In economic terms, the distribution system became more asset-specific, i.e., it became so specialised toward the music distributed through it, that it could hardly be used for any other purposes, and would fetch a low price if sold to a non-industry buyer. Even so, the value of the music-copyright assets was increased because of the specialised knowledge within the distribution organisation, and these music/copyright assets would have substantially lower value to a firm that did not own a distribution system. On asset specificity, see Williamson (1985).

⁴⁰ Chapple and Garofalo (1977: 191).

⁴¹ For a business history case study of PolyGram see Bakker (2006).

⁴² For a case study on A&R, music publishing, and the capturing of rents by smaller Dutch companies, see also Carroll, Mol and Wijnberg (2005).

Table 1

Major Mergers and Acquisitions in the Music Industry, 1929–2011^a

<i>Year</i>	<i>Buyer</i>	<i>Target</i>	<i>Share (%)</i>	<i>Real value (\$million)^b</i>	<i>100%:</i>
1929	RCA	Victor Talking Machine Co.	100	1,287	
1931	Columbia U.K.	Gramophone Company	Merger ^c	n/a	
1950/62/72	PPI ^d	Deutsche Grammophon	Merger	n/a	
1962	MCA	Decca Records, Inc. ^{e,f}	Merger	n/a	
1966	Kinney Corporation	Warner Brothers ^f	100	1,443	
1979	Thorn	EMI Ltd. ^{f,g}	100	706	
1986	Bertelsmann	RCA Records	100	463	
1987	Sony	CBS Records	100	2,732	
1989	PolyGram	A&M Records	100	586	
1989	PolyGram	Island Records	100	568	
1989	Investors–IPO	PolyGram ^f	20	400	2,000
1990	Time-Life	Warner Communications ^f	100	17,159	
1990	MCA	Geffen Records	100	662	
1990	Matsushita	MCA Universal ^f	100	7,513	
1992	EMI	Virgin Music	100	1,108	
1995	Seagram	MCA Universal ^f	80	6,188	7,735
1998	Seagram	PolyGram ^f	100	11,035	
2002	BMG ^h	Zomba Records	75	2,636	3,515
2003	BMG	Sony Music	Merger	n/a	
2003	Edgar Bronfman ⁱ	Warner Music	100	2,453	
2005	Investors–IPO	Warner Music	20	490	2,450
2006	Universal Music	BMG Publishing	100	1,803	
2007	Terra Firma	EMI Music	100	7,000	
2011	Access Industries	Warner Music	100	2,581	
2011	Sony	EMI Music Publishing	100	1,721	
2011	Universal Music	EMI record division	100	1,486 ^j	

Sources: PolyGram Archives, trade press, business press, literature on industry; Bakker (2006, 2010).

^a Deals with a value of more than c. \$400 million are included.

^b All values are real values in millions of constant dollars for the year 2000, GDP-deflated using Johnston and Williamson (2010).

^c The merged company was called Electric & Musical Industries (EMI).

^d PPI = Philips Phonographische Industrie NV. After the ownership merger in 1962 the combined PPI-Deutsche Grammophon was named the Grammophon-Philips Group. After the operational merger in 1972 it was named PolyGram.

^e Decca Records, Inc. merged with Universal-International Pictures in 1952.

^f The target includes film and/or television divisions.

^g Was preceded by a failed bid of Paramount Pictures of \$299 million for 50 per cent of EMI Ltd.

^h BMG = Bertelsmann Music Group.

ⁱ Edgar Bronfman refers to Edgar Bronfman Jr. and a group of private investors who jointly took over Warner Music.

^j The actual value might have been higher, as seller Citigroup agreed to take on EMI pension fund liabilities.

Table 2
Various Medium-Sized Acquisitions by Multinationals in the Music Industry, 1920–2004

<i>Year</i>	<i>Buyer</i>	<i>Target</i>	<i>Share (%)</i>	<i>Real value (\$million)^a</i>
<i>Before 1960</i>				
1920	Victor Talking Machine Co.	Gramophone Company	47	63
1924	Columbia U.K.	American Columbia	100	21
1925	Columbia U.K.	Carl Lindstrom	100	
1927	Columbia U.K.	Pathé Frères	100	
1932	Decca Ltd.	Brunswick Records	100	
1933	American Record Company	American Columbia	100	1
1938	CBS	Columbia	100	7
1955/61	EMI Ltd.	Capitol	100	92
1957	Paramount	DOT Records	100	10
<i>1960s</i>				
1962	PolyGram	Mercury Records	100	9
1963	Warner	Reprise	67	55
1966	ABC Records	Dunhill Records	100	13
1967	Warner	Atlantic	100	82
1967	Warner	Ashley Famous Agency	100	42
1967	PolyGram	RSO	100	33
1968	PolyGram	Chappell	100	171
1969	ATV	Northern Songs	100	91
1969	GRT ^b	Chess Records	100	31
<i>1970s</i>				
1970	Warner	Elektra	100	36
1971	Warner	Asylum	100	24
1972	CBS Records	Stax	100	23
1972	PolyGram	MGM Records (including Verve)	100	n/a
1972	PolyGram	United Distribution Corp.	100	n/a
1976	EMI Ltd.	Screen Gems Music Publishing	100	58
1977/80	PolyGram	Casablanca Film and Records Works	100	51
1979	MCA	ABC Records	100	81
1979	Bertelsmann	Arista Records	100	101
1979	EMI Ltd.	United Artists Records	100	6
1979	PolyGram	Decca Ltd.	100	60
<i>1980s</i>				
1983	RCA	Arista	50	n/a
1984	ATV	Majority of copyrights to Beatles songs	100	103
1986	PolyGram	Dick James Music	100	56
1986	SBK Entertainment	Music publishing of CBS Records	100	175
1986	MCA	Front Line Management/Full Moon Records	100	22
1987	Warner	Chappell	100	383
1987/97	PolyGram	Go! Discs	100	36
1988	MCA	Motown Records	20	81

1989	Sony	Tree International	100	53
1989	Warner	Birch Tree	100	32
1989	Fujisankei	Virgin Records	25	240
1989	PolyGram	Welk	100	32
1989	PolyGram	Polar + Sweden Music	100	32
1989	EMI	SBK Publishing	100	429
1989/91	EMI	Chrysalis Records	100	179
<i>1990s</i>				
1990	Warner	CBS Record Club	50	382
1990	EMI	Filmtrax Catalogue	100	141
1991	PolyGram	Really Useful Holdings	100	199
1991	PolyGram	CD factories Hannover/Louviers	100	108
1992	Carlton Communications	Pickwick Records	100	145
1992/96	Sony	Creation Records	49	30
1993	PolyGram	Nippon PhonoGram	35 ^c	26
1993	PolyGram	Motown Records	100	341
1994	Sony	ATV Music	100	116
1994	Warner	CPP/Belwin	100	23
1994	BMG	Ricordi	73	332
1994	EMI	Intercord	100	95
1994/97	PolyGram	Def Jam	100	139
1995	PolyGram	Rodven Records	100	62
1996	MCA	Interscope Records	50	213
1996	BMG	Fun House	100	96
1997/04	EMI	Jobete ^d	100	316
1999	EMI	Fuji-Pacific Music Inc. ^e	100	204
<i>2000s</i>				
2000	Universal Music	Rondor Music	100	350
2000	BMG	Napster	100	60
2003	Universal Music	DreamWorks Records	100	95
2004	JDS Capital	DreamWorks Music Publishing	100	42

Sources: PolyGram Archives, trade press, business press, literature on industry; Bakker (2006,2010).

^a Real value is in millions of constant dollars of the year 2000, GDP-deflated using Johnston and Williamson (2010).

^b GRT was a manufacturer of audio tape and cartridges

^c The 35 per cent PolyGram did not already own.

^d The firm owns copyrights to Motown songs; EMI acquired 50 per cent in 1997, 30 per cent in 2003, and 20 per cent in 2004.

^e EMI acquired the rights to 40,000 songs of Fuji-Pacific Inc.

This handful of multinationals, such as Warner, PolyGram, EMI, and BMG, came to dominate the music industry worldwide. Their most important activities were distribution, A&R, and music publishing. The international distribution system comprised physical assets and specialised knowledge.⁴³ Within countries, their physical assets consisted of distribution centres, national distribution headquarters, and capital investment in inventory. International assets comprised the multinational's headquarters and manufacturing capacity, which was not equally

⁴³ A general overview of record marketing/distribution is Hull (2004: 169–205).

spread across countries. These networks required large, fixed outlays and showed substantial economies of scale.

To operate on a national level, the companies needed practical knowledge to establish and maintain well-oiled logistics systems that delivered the right records to the right outlets at the right time; they had to understand pricing conventions; and they had to be informed about the reputation of market parties, institutions, and contractual intricacies. Internationally, they needed efficient logistics; they had to know how to minimise taxes through transfer pricing; and they had to be familiar with the reputations of institutions and business people in foreign countries.⁴⁴

Even more important to their success was the possession of intangible marketing knowledge, which, on a national level, meant having a grasp of the music that appealed to each demographic group, broken down according to gender, age, income, and location. Armed with this knowledge, the companies had to be able to uncover and keep track of the channels through which these groups made their purchases—such as general or specialist music retailers, discount stores, supermarket racks, and record clubs—and they then had to find out which outlets within each channel were preferred by which customers.⁴⁵ To this newly gathered knowledge, they added the accumulated experience of past marketing campaigns. Internationally, they had to be aware of the kind of music that was popular in each country.⁴⁶

In contrast to music distributors, most U.S. food distributors, for example, did not expand abroad, because their systems and knowledge were tied to their locations.⁴⁷ Within the music industry, international expansion did take place, because horizontal integration of national distribution systems in one firm yielded economies of scale. Moreover, vertical integration of A&R units with distributors in other countries enabled fast international distribution. Speed was important, because hits had a short life cycle. Vertical integration also prevented local distributors from siphoning off the revenues generated by the copyrights, and aligned the profit incentives of the multinational and the label.⁴⁸

The second important activity of music multinationals entailed the output of artists and the creative repertoire. In economic terms, A&R was similar to R&D.⁴⁹ The outlays on A&R

⁴⁴ Transfer pricing involves locating activities in tax-efficient production countries and setting internal international prices in such a way as to incur most taxable income in the countries with the lowest corporate taxes. In the case of PolyGram, one can think of the location of its record and CD manufacturing and its music-publishing vehicles. CD factories, for example, were amongst others, located in Germany, France and the US. The prices charged to various destination countries could take into account relative taxation and tariffs.

⁴⁵ Similarities exist with alcoholic-beverage firms. Lopes (2002) has shown that as marketing knowledge of these companies accumulated over time, the acquisition of brands gained increasing strategic relevance. A major difference was that brands needed national registration, advertising, and maintenance. Unlike music, they did not have a preexisting inherent value for markets where they had not been established yet.

⁴⁶ General industry sales data can be obtained externally, but this is no substitute for detailed, disaggregated internal sales data and qualitative judgment about consumer tastes, which were important because the industry involved the constant launch of new products. Given the short product life cycle of music, obtaining information through the market could take too long and make the data obsolete. Bakker (2001, 2003) makes this point for the film industry.

⁴⁷ Caves (1996).

⁴⁸ See also Caves (2000). Assuming in-company compensation systems brought part of the marginal revenues generated by the label's extra effort back to the label.

⁴⁹ See the introduction to this article.

reached levels that were similar to the ratios of R&D to sales in R&D-intensive industries. Between 1989 and 1993, for example, the five large music multinationals sank, on average, 22 per cent of their sales revenue into A&R.⁵⁰

Acquisition of an A&R company (a 'label') initiated a two-way flow of knowledge: the multinational collected data about the countries in which the label's music could be profitable, and the label was informed about which foreign music would sell well locally.⁵¹ By gathering information on the international market, the multinational made itself better informed than other potential buyers about a label's worldwide value. Moreover, owning labels was a better guarantee of supply for the system than contracts.⁵² An acquired label yielded knowledge about the local value of artists and genres; the label's market segment; the national A&R market; the various market parties; and the local rules, conventions, and institutions. After its first takeover in a country, the multinational was in a better position to make subsequent acquisitions.⁵³

The third important activity was music publishing. This involved managing and enforcing rights and marketing existing copyrights to potential users, such as producers and entertainers.⁵⁴ Because costs were largely fixed, the acquisition of each subsequent catalogue reduced average costs substantially and thus yielded economies of scale. Publishing operations enabled the multinational to reap profits from its own labels and distribution networks and to gain a portion of the profits generated by its outside customers.⁵⁵ Moreover, a copyright in a musical work often had a far longer economic life span than the copyright of a particular recording—the former ranged between 70 and 95 years after the creator's death, the latter between 50 and 70 years after the date of the recording.⁵⁶

Since a copyright is fixed after its creation and constitutes a monopoly, the revenues it generates can be considered rents, not unlike the rents on a piece of land, which is also a fixed quantity. The total value of these rents depends on the effort of all participants in the value chain, and the distribution of this total value depends on the relative strength of each participant in the chain. A participant who owned a scarce resource, such as a music-distribution organisation or, in the 1980s, a compact-disc factory, was able to corner a large share of the total rents generated by the copyright. If none of the participants had any particular strength, rents would be low and the consumer would receive the benefit, by paying lower prices.⁵⁷

⁵⁰ It ranged from a minimum of 20.4 to a maximum of 25.1 percent, with an average of 22.2 percent. Calculated from Monopolies and Mergers Commission (1994: 167–73). Cf. the R&D/sales ratios in Sutton (1998).

⁵¹ Overviews of A&R management are Hull (2004 : 123–48); and Hennion (1981).

⁵² Trautwein (1990) underlines the crucial importance of private information in acquisitions. See also Penrose (1959: 153–96).

⁵³ See also the remarks above about the label's ability to capture rents and the alignment of incentives.

⁵⁴ An overview of music publishing is found in Hull (2004: 69–96).

⁵⁵ On international flows of royalty payments, see Kretschmer, Baden-Fuller, Klimis and Wallis, (2000).

⁵⁶ Hull (2004: 75). In the Western world the prevailing copyright protection of musical works increased during the period from about 50 to about 70 years after the death of the creator. In the United States, in 2000 corporate authorship, which often covers sound recordings, was increased to 95 years after publication or 120 years after creation, whichever comes earlier. In 2011, the European Union increased copyright in sound recordings from 50 to 70 years after the date of the recording.

⁵⁷ Since, in the music industry, copyright owners always are in a strong position (because they have the monopoly on the particular copyright), this situation does not apply to the modern music industry.

The circumstance that certain assets only had value in combination with other assets, i.e. the occurrence of asset specificity, stimulated vertical integration.⁵⁸ The international distribution network, for example, was fully equipped to distribute music; without music, it was worthless. A&R and music publishing, in their turn, were worthless without the distribution network. When new audio standards were launched, the manufacturing capacity they required was very specialised, making it of little value for any other purpose (unlike hardware factories, which could easily switch from manufacturing one type of hardware to another).

Thus, the first few firms to own the scarce new plants could secure part of their competitors' profits by manufacturing their LPs or CDs and charging them high prices, since those competitors had nowhere else to go until more companies began to manufacture the new audio products.⁵⁹ In this way, for example, Philips and Sony profited handsomely from the compact disc, since for a few years they were the only firms with CD factories.⁶⁰ Their ability to corner the CD market decreased sharply over the course of the product's life cycle, however, as more firms built their own factories.⁶¹

In economic terms, then, a music multinational created revenue-generating assets in the form of copyrights and contracts with artists who would generate copyrights. It owned location-specific creative units—"labels"—that produced these assets, not unlike multinationals making foreign investments in order to extract natural resources.⁶² Whereas resource multinationals extract, for example, metal ore to use in their production process, music multinationals "extract" unique assets (copyrights). A multinational does everything to exploit these assets to the limit and to maximise its worldwide profits. Although created locally, the intangible asset's revenue could be generated globally.⁶³ A global distribution network that combined local marketing knowledge enabled the multinational to better assess in advance the risks and expected international variability of a copyright's revenue-generating capacity. By combining these assets, a multinational could realise economies of scale and scope and diversify risk.⁶⁴

In short, the music multinationals that emerged after 1945 were rights-based. They linked dispersed, idiosyncratic A&R units, creating portfolios of innovations (protected by temporary legal monopolies) within a global distribution system. This organisation guaranteed market access and cornered the revenues of the major markets. It sold products whose marginal costs were minimal and whose marginal revenues roughly equalled marginal profits. Thus, since most of their costs were fixed, each additional sale added little to these costs; as a result, a large part of the added sales revenue equalled additional gross profits. The principle that marginal revenues translate into marginal (gross) profits is an essential feature of industries with high fixed and/or sunk costs (see above). These multinationals specialised in exploiting their existing rights—whose supply by definition was fixed—and in creating new rights whose rents they would be able to capture.

⁵⁸ On asset specificity, see Williamson (1985).

⁵⁹ See, for example, McGahan (1993).

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Jones (1996: 68–99), who introduces the term "resource multinationals."

⁶³ Even the "local assets" were important because they helped PolyGram's distribution network reach minimum efficient scale, and the labels linked to these creative assets gave it valuable local marketing information.

⁶⁴ Sedgwick and Pokorny (1998) argue that within the film industry production costs are most meaningful when considered as portfolios rather than individual films.

To build these large multinational organisations large amounts of long-term cash were needed. Because much of this was sunk in intangible assets that could not easily function as collateral for bank loans or reassurance for investors, there was a practical need to get access to long-term cash. Almost all successful rights-based multinationals received this from the cash flow of their parent companies (Diagram 4). EMI and PolyGram, for example, both were owned by parents making electronic hardware, while Warner Music was attached to the eponymous Hollywood studio. BMG Music was set up with cash flows from the Bertelsmann media company, and MCA was developed by its parent, the Hollywood studio Universal.

Second, almost all successful rights-based multinationals enjoyed some form of synergy with their parents. The early EMI, PolyGram, and the late Sony Music enjoyed synergies with hardware parents, while the other companies benefited from synergies with media parents (Diagram 4). Third, almost all successful rights-based music multinationals could piggyback on the existing multinational organisation of the company that owned them. Philips and Siemens, for example, instructed their foreign hardware subsidiaries to help set up foreign music subsidiaries. The only exception was CBS Records during its internationalisation in the 1960s. However, it had a strong existing position with abundant cash flow and eventually owners with deep pockets and some synergies.

Thus it is clear that setting up a music multinational was not easy. The survivors were developed by parents that could give them long-term access to cash, knowledge and synergies with an existing business, and an actual multinational organisation, including the know-how needed to run it.

4. How the federated form developed

From the mid-1950s to the 1970s, the increasing proliferation of genres and the fragmentation of the market called for more specialised record labels and for marketing directed to narrower audiences.⁶⁵ This situation favoured a decentralised A&R structure. Before the 1950s, music had been a standardised product geared to a relatively homogenous taste, but products were becoming more differentiated, and the market was far more compartmentalised.⁶⁶

⁶⁵ On diversity in musical output see, for example, Gourvish and Tennent (2010).

⁶⁶ Peterson and Berger (1975: 169–70), discuss the increasing product differentiation and emergence of subsidiary labels during the 1960s and early 1970s. Chandler Jr. (1977), discusses the role of product differentiation in General Motors' strategy to unseat Ford as market leader, yielding insight into the role of product differentiation in industry dynamics.

Diagram 4. Provenance of cash needed for sunk outlays of rights-based multinationals and several non-surviving music companies.

Rights-based multinationals			
	Provenance of cash	Synergy	Capabilities
EMI	Own cash flow Shareholders Other businesses Thorn-EMI	Hardware	Pre-existing Multinational Enterprise (MNE) organisation of parent
PolyGram	Early: Cash flow Philips and Siemens Late: own cash flow IPO/shareholders	Hardware	Pre-existing MNE organisation of parent
Warner Music	Cash flow film division Later: own cash flow Late: private investors Shareholders/IPO	Media: Film	Pre-existing MNE organisation of parent
CBS Records	Own cash flow	Early: broadcasting (CBS) Later: advertising (Coca Cola) Late: hardware (Sony)	No pre-existing MNE
BMG	Cash flow Bertelsmann Later: own cash flow	Media: Book clubs Media: Broadcasting Media: publishing	Pre-existing MNE organisation of parent
MCA/Universal	Cash flow film division Later: own cash flow External private investors Shareholders	Media: Film Media: TV production	Pre-existing MNE organisation of parent
Non-survivors			
RCA	Cash flow conglomerate	Hardware	
Decca	Investors; own cash flow	Hardware	No pre-existing MNE organisation
MGM Records	Cash flow from film division	Media: Film	Pre-existing MNE organisation of parent
United Artists Records	Cash flow from film division	Media: Film	Pre-existing MNE organisation of parent
Fox Music	Cash flow from film division	Media: Film	Pre-existing MNE organisation of parent
Virgin Records	Investors; own cash flow	(Brand name)	No pre-existing MNE organisation
Geffen	Investors; own cash flow	None	No pre-existing MNE organisation
DreamWorks Records	Investors; founders-entrepreneurs Proceeds from sale Geffen Records	Media: Film	No pre-existing MNE organisation

Not all of the existing record companies were equally well equipped to adapt their resources, capabilities, and routines to the changed environment. Traditionally, before the mid-1950s they were managed under a unified creative organisation. The survivors, however, were either small labels targeting specific consumers, or large enterprises that decentralised themselves into separate A&R units. The latter became federations of creatively independent labels fine-tuned to particular audiences and linked to a global distribution system. This

emerging decentralised A&R structure encouraged music diversity.⁶⁷ Between 1970 and 1990, for example, the average number of labels per record company more than doubled (Figure 4).⁶⁸

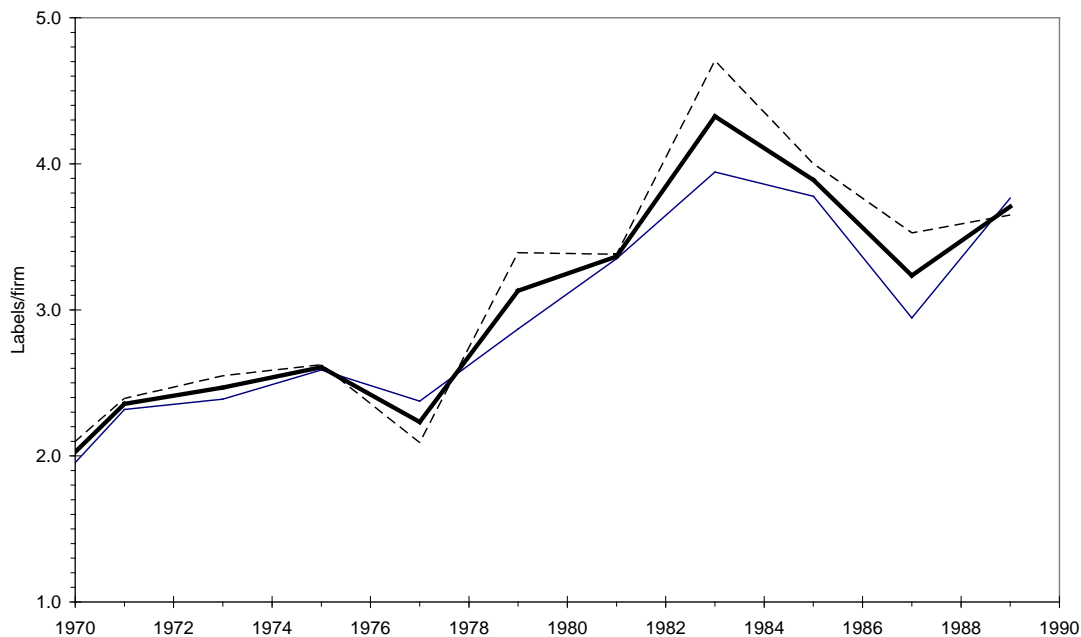


Figure 4. Average number of labels per firm in the US recorded music industry, 1970-1990, based on top-100 singles and albums.

Notes: Dotted line = labels per firm in the top-100 albums
Thin line = labels per firm in the top-100 singles
Bold line = average of the labels per firm in the top-100 albums and the top-100 singles

Source: calculated from Lopes (1992).

The federated organisational structure emerged in an interactive, self-reinforcing process.⁶⁹ Market growth led to more distribution channels, and more channels, in their turn, to even more growth. The increase in distribution capacity alleviated the need to focus on the lowest common denominator and therefore enabled additional product differentiation.⁷⁰ By the early 1970s, for example, convenience-store racks had become an important outlet, particularly in the United States. During the 1970s, specialised music stores proliferated and became part of chains. During the 1980s and 1990s, super-sized megastores and specialised radio stations followed. Better measurement technology enabled a more accurate estimation of a recording's airtime share, which increased the number of different songs that were played.⁷¹ On the production side, technological innovations caused recording costs to decline sharply, enabling new artists, new musical styles, and small companies to enter the market.

⁶⁷ Lopes (1992); Dowd (2000) Some older, nonquantitative sociological works include Richard A. Peterson and Berger (1971) and Hirsch (1975). For a cultural studies perspective, see Negus (1999).

⁶⁸ It increased from 1.7 to 3.7 labels per record company. See Lopes, "Innovation."

⁶⁹ The term "federal" or "federation" has been used before to characterise the emerging structure of record distribution. See, for example, Huygens (1999: 126–29); Baden-Fuller, Huygens, Van den Bosch and Volberda (2001).

⁷⁰ See the previous section. Likewise, the advent of television had increased audiovisual distribution capacity, thus further differentiating motion pictures and radio to target specific and narrower (especially younger) audience segments, while the television networks focused on the lowest common denominator.

⁷¹ Hull (2004: 90).

In the multidivisional structure, or M-form, the central management makes the entrepreneurial decisions, and the divisional managers make operational and managerial decisions. Within the emerging rights-based multinationals, strategic and entrepreneurial decisions were made for the corporation as a whole; operational and managerial decisions were made for each national distribution system, and creative-entrepreneurial matters were decided for each label.⁷² The label manager generally had all the responsibility for creative performance and sometimes owned part of the label. This meant that each label was in charge of signing or cancelling acts and—in coordination with country managers—controlled their international distribution.

Early pioneers of the decentralised A&R structure were PolyGram, which bought a string of labels from the early 1960s onwards, including Mercury, MGM Records, Verve and RSO, and Warner Music, which purchased the Reprise, Elektra/Asylum, and Atlantic labels (Table 2).⁷³ The companies that survived the shift in the business environment generally did not attempt to merge the managements of acquired firms. Doing so could have eliminated the entire creative function of *both* labels, affecting their brand image among consumers and their professional reputation among artists. Only when a label experienced large losses would its creative independence be ended. This was generally not done by merger, but was achieved by closing the entire outfit and transferring copyrights and artist contracts to another label, which is how PolyGram folded Casablanca, Go!Discs and Motown, for example.⁷⁴ The guaranteed residual value of past copyrights and contracts attenuated the risk of buying a label. Whatever happened, at least some residual value whose future revenue streams could be estimated would remain.⁷⁵

Where the M-form generally had been adopted by firms in order to organise organically developed businesses into divisions, the federated structure emerged largely by self-organisation: independent entrepreneurs founded their own labels and—if these were successful—sold out to a multinational.⁷⁶ Not often did a multinational set up a new “greenfield label.” There was therefore a strong evolutionary component to the federated structure, or F-form: many, if not most, of the labels died. More than the M-form, the F-form was as much dependent on evolution as on rational design. This ensured that multinationals like PolyGram and Warner gained access to unique resources and capabilities the characteristics of which could not be predicted.

The surviving rights-based multinationals typically bought many smaller local companies, rather than a few large ones. To retain the firms’ value, the takeovers had to be friendly and the managers had to remain part owners. The labels gave the multinational better expertise to anticipate future markets and to act swiftly when entering new fields. The large multinational

⁷² On the M-form, see, for example, Chandler (1977). For a detailed case study, see Arnold (1997). On PolyGram’s corporate culture, see also Negus (1999: 67–68).

⁷³ For a business history case study of PolyGram see Bakker (2006).

⁷⁴ Ibid.

⁷⁵ Unlike patents, copyrights had a long life span, could not be circumvented and could not be made obsolete by competitors. With a patent, a rival and newly patented product can be introduced that achieves the same purpose, such as a pill that lowers cholesterol using a different chemical as an existing medicine. With copyrights, this cannot be done, as it is the final expression that is protected. The value of copyrights varied substantially over time, but unlike patents, many retained an important residual value.

⁷⁶ On the role of self-organisation, see Dosi, Nelson, and Winter (2000).

would know how to hire the right people or buy the right companies at the right price.⁷⁷ Each A&R acquisition gave it additional know-how and made subsequent takeovers easier.⁷⁸

Labels had a distinct geographic origin and location—part of their reputation and brand image—but they often marketed their music globally and prominently featured its local and cultural specifics.⁷⁹ Paradoxically, a label needed local roots to have a global reach. Motown Records, for example, had strong roots in the U.S. Midwest and specialised in Afro-American music, while its music was sold worldwide. The geographic ties facilitated the adoption of the F-form. They stimulated autonomy by separating units from the rest of the company and helped to attract artists. Within the M-form, by contrast, the different hierarchies of managers could share the same office.⁸⁰ Without the federated structure, large creative companies would have found it difficult to turn out different styles that were geared to a variety of demographic groups. Ironically, in contrast to the M-form, most of the day-to-day operational routines were moved from the labels to functional departments/divisions. The remaining label duties were creative and entrepreneurial.⁸¹

Entrepreneurial decisions about functions and general strategies were left up to the central management, which also made decisions on issues that transcended individual labels, such as the spectrum of labels to maintain; whether to buy, hold onto, or close a label; how to combine information pertaining to different labels; and how to ensure that the labels' activities conformed to corporate strategy.

Rights-based multinationals transferred knowledge from the whole distribution system to the labels. Ownership of the system also gave a multinational the advantage of having information that was not available to bidders lacking their own distribution system during takeovers, allowing the company to estimate the label's expected performance and to figure out how well it would fit into the distribution organisation.⁸²

One reason for adopting the federated structure was the importance of fixed (A&R) costs compared to variable costs. This meant that a disproportionate part of the additional sales revenue generated by an increased A&R effort became additional gross profits (see section 2, above). This made the A&R and marketing functions all-important. They faced a maximum efficient scale and scope and could only be integrated by a decentralised, federative organisational structure.

Not all music companies were able to adapt to the changing business environment and evolve a rights-based organisational model. Most Hollywood studios, for example, sold their record labels during the 1970s. RCA lagged behind and ceased to be an independent company

⁷⁷ This connects to Simon's (1993) ideas on the importance of R&D in giving a firm the capabilities and people to interpret the changing business environment.

⁷⁸ Again, this connects to Trautwein's (1990) point about private information.

⁷⁹ On location-specific advantages and the multinational enterprise, see Rugman and Verbeke (2001). On location as part of brand image, see, for example, Merrett and Whitwell (1994) and Wilkins (1994). See also Lopes (2002).

⁸⁰ Chandler Jr. (1962).

⁸¹ See, for example, the Island case, discussed below.

⁸² Trautwein (1990) underlined the importance of private information. Penrose (1959) and Chandler (1962), observe that the growth of firms is often driven by a desire to put slack resources to productive use. A multinational's distribution organisation could be considered such a slack resource.

in the 1980s.⁸³ A prominent failure was Decca. As its managers aged, the company lost touch with the changes taking place in the industry.⁸⁴ Having declined merger proposals by Philips/PolyGram in 1945, 1947, and 1961, Lewis finally agreed to sell Decca records to PolyGram in 1979 for a mere five million pounds. He died a few days later.⁸⁵

5. The model of the rights-based multinational

Table 3 recapitulates the entry of the various rights-based multinationals. It shows how after the war only one organisation could be characterised as a global multinational, with a presence in all major music markets, and a proto-rights-based structure, whereas at the height of the post-war music industry, during the CD-boom in the mid-1990s, six such gigantic organisations existed. The sale of PolyGram for more than 10 billion dollars in 1998 illustrates the uniqueness of these rights-based multinationals and the enormous value investors attached to them. One property that made investors willing to pay a premium for rights-based multinationals in the music industry was entropy: although a rights-based organisational structure could be dismantled or merged in a matter of weeks, it took decades, sometimes a century to build them. Elimination of one of them, as happened with the subsequent merger of PolyGram with MCA Music, was irreversible in the short term.

Table 3. *Global MNEs in the music industry since 1945*

Period	Entry / exit		Incumbents	
	No.	Name	No.	Names
1940s	0		1	EMI
1950s	1	PolyGram	1	EMI
1960s	2	Warner; CBS	2	EMI; PolyGram
1970s	0		4	EMI; PolyGram, Warner, CBS
1980s	1	BMG	4	EMI; PolyGram, Warner, CBS
early 1990s	1	MCA	5	EMI; PolyGram, Warner, CBS, BMG
late 1990s	0		6	EMI; PolyGram, Warner, CBS, BMG, MCA
1999	-1	PolyGram	5	EMI, Warner, CBS, BMG, MCA/PolyGram
2003	-1	BMG	4	EMI, Warner, CBS/BMG, MCA/PolyGram
2011	-1	EMI	3	Warner, CBS/BMG, MCA/PolyGram/EMI

Note: As EMI already was a multinational with a global reach before 1940, it is identified as an incumbent in this table

CBS Records was renamed Sony Music after acquisition; MCA/PolyGram was named Universal Music.

The 2011 takeover announcement of EMI by Universal Music (MCA/PolyGram) is subject to regulatory approval.

Sources: see text

Diagram 5 gives a schematic overview of the typical structure of rights-based music multinationals as it emerged after 1945 and as we have discussed above.

⁸³ Huygens (1999: 124).

⁸⁴ Davenport (1985).

⁸⁵ Ibid. The initial £5.5 million could rise to £15.5 million, depending on Decca's performance after takeover. The Decca acquisition by its former Dutch licensee was not unlike the takeover of the Columbia Graphophone Company of the United States by its former British subsidiary half a century earlier, in 1925.

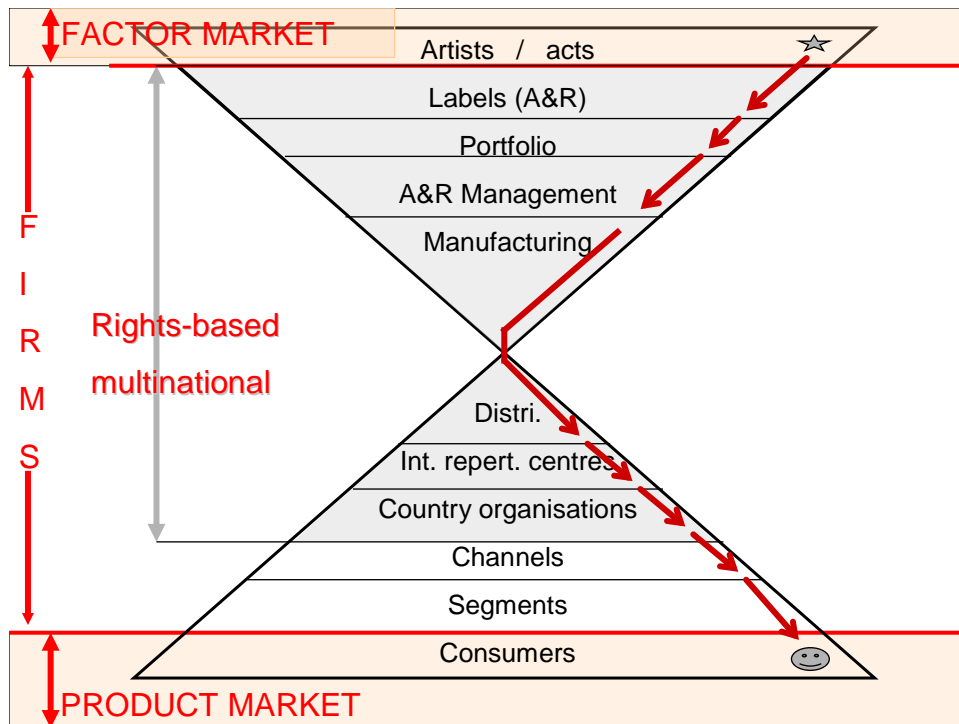


Diagram 5. The value chain and the boundaries of the firm in the music industry.

Notes: the relative horizontal size of the value-chain stages reflects the relative scarcity of the activity. For example, there are more labels than global distribution organisations.

Int. rep. centre = international repertoire centre; the function of multinationals that coordinates the marketing of a particular kind of repertoire on an international scale.

To recapitulate, the rights-based multinationals had three main properties. First, the high endogenous sunk costs in the development and marketing of recorded music, and the low marginal costs of reproducing music, led to marginal revenues almost equalling marginal profits, thus creating an incentive to keep spending on music development and marketing until the last dollar spent equalled the last dollar received. This led to an incentive structure in which lots of artists, managers and entrepreneurs who had some control over how well the music would sell, had per centage contracts to align their incentives.

Second, limited economies of scale and scope existing in A&R: at some point, spending more money on a label would not lead to significantly better acts. Therefore the rights-based multinationals managed a portfolio of various different labels focusing on different musical styles and genres and often in different locations.

Third, paradoxically in their other activity, distribution, the multinationals experienced large economies of scale and scope, and therefore they had an incentive to create global distribution 'machines' that maximised throughput and so lowered unit costs. The trick that every rights-based multinational needed to pull off was to link the distribution machine intelligently to the labels. And this was easier said than done: where six organisations succeeded, many other ones failed and are forgotten. At the present day, four rights-based multinationals remain, which are likely to be reduced to three, if the planned takeover of EMI's record company by Universal Music in 2011 obtains regulatory approval.

6. Conclusion

Few other industries have faced more radical changes than the recorded music business has confronted since 1945. Many companies failed to cope and disappeared as independent organisations. A handful of singular firms managed to adapt their strategies and organisational structures to the new environment. Along the way, they combined the assets of firms less able to adapt, such as RCA, Decca, Mercury and MGM Records, with those of smaller, younger firms, reconfiguring their acquisitions into large international federations.

This paper showed how, first, endogenous sunk costs led to a quality race, expressing itself in increasing A&R expenditure since the mid-1950s. Second, the fact that marginal revenues equalled marginal profits, combined with rapid market growth led to increasing vertical integration since the 1960s. Third, the quasi public good character led to income inequality among the artists as a whole and among the stars, and it also prompted the development of new business models that focused on points where revenue could be captured, such as physical sound carriers, live concerts, merchandising, broadcaster fees and performance rights. Fourth, the project-based character of music led to decentralised agglomeration with strong agglomeration benefits. Many music styles had their own geographic location where most of the music was developed

Rights-based multinationals were internationally vertically integrated organisations that married minimum economies of scale and scope in distribution with maximum economies of scale and scope in A&R. From the mid-1950s these multinationals joined the quality race, using their own cash flows and those of their parent companies. They played a key part in developing a business model that allowed them to capture most of the rents to musical copyrights. Dealing with the project-based character, they owned subsidiaries in most of the important industrial music districts in the world.

Rights-based multinationals adopted a decentralised, federated A&R structure, moving creative and entrepreneurial decisions to several entities within the organisation. The lower part of this federated structure, or F-form, emerged through self-organisation. The A&R units often were pre-existing companies that had survived a commercially and creatively competitive process before they were acquired. Dispersed around the world, they had strong local roots, but they developed products for a global market and were linked to a distribution system that captured the rents of their copyrights on a global scale. The transition to the multidivisional A&R structure helped to promote the growth of multinationals by allowing an increase in the size of firms in creative industries beyond what had once been thought possible.

Pioneers PolyGram and Warner were closely followed by EMI and later by Sony Music (CBS), two older firms that eventually managed to adapt to the new environment, unlike some of their peers. From the 1980s onward, BMG, and then MCA, built and expanded multinational organisations. By the late 1990s, these six rights-based multinationals had come to dominate the entire industry. Ironically, while this concentration of power worried some people, there had never before been so many music multinationals. The F-form ensured that rising concentration could proceed hand in hand with increasing diversity of musical styles.

Bibliography

- Arnold, David J., "PolyGram Classics," Harvard Business School Case 9-598-074 (19 Nov. 1997).
- Baden-Fuller, C., M. Huygens, F. van den Bosch and H. Volberda, "Co-evolution of Firm Capabilities and Industry Competition: Investigating the Music Industry, 1877–1997," *Organization Studies* 22 (July 2001), 971–1011.
- Bakker, Gerben, "Stars and stories. How films became branded products," *Enterprise and Society*, Vol. 2 No. 3 (September 2001), pp. 461-502.
- Bakker, Gerben, "Building knowledge about the consumer. The emergence of market research in the motion picture industry," in: *Business History*, Vol. 45 No. 1 (January 2003), pp. 101-127.
- Bakker, Gerben, 'The Decline and Fall of the European Film Industry: Sunk Costs, Market Size and Market Structure, 1895-1926', *Economic History Review* 58 (2005), 310-351.
- Bakker, Gerben, "The Making of A Music Multinational: Polygram's International Businesses, 1945-1998," in: *Business History Review*, Vol. 80 No. 1 (Spring 2006), pp. 81-123.
- Bakker, Gerben, *Entertainment industrialised. The Emergence of the international film industry, 1890-1940* (Cambridge, Cambridge University Press, 2008).
- Bakker, Gerben, 'Sunk costs and the evolution of the creative industries', in Candace Jones, Mark Lorenzen and Jonathan Sapsed eds., *The Oxford Handbook of the Creative Industries* (Oxford University Press, 2012, forthcoming).
- Bakker, Gerben, "The Evolution of the British Entertainment Business: Film, Music and Videogames," *Learning From Some of Britain's Successful Sectors: An Historical Analysis of the Role of Government* (London, Department of Business, Innovation and Skills, Economic Paper No. 6 2010).
- Bakker, Gerben, "Trading Facts: Arrow's Fundamental Paradox and the Origins of Global News Networks" in: Peter Putnis, Chandrika Kaul and Juergen Wilke eds., *Communication, News and Globalisation: Historical Studies* (Hampton Press / International Association of Media and Communication Research, 2011).
- Bakker, Gerben, 'How Motion Pictures Industrialized Entertainment.' *Journal of Economic History* Vol. 72 No. 4 (December 2012), pp. 1036-1063.
- Bakker, Gerben, "Soft power: the media and creative industries in Britain since 1870," chapter 14 in Paul Johnson, Jane Humphries and Roderick Floud Eds., *The Cambridge Economic History of Modern Britain* (Cambridge, Cambridge University Press, Fourth Edition, 2013, forthcoming).
- Carroll, Charles, Joeri M. Mol, and Nachoem M. Wijnberg, "Value Chain Envy: Explaining New Entry and Vertical Integration in Popular Music," *Journal of Management Studies* 42 (Mar. 2005): 251–76.

- Caves, Richard E., *Creative Industries: Contracts between Art and Commerce* (Cambridge, Mass., 2000).
- Caves, Richard E., *Multinational Enterprise and Economic Analysis* (Cambridge, 1996).
- Chamberlin, Edward, *The Theory of Monopolistic Competition* (Cambridge, Mass., Harvard University Press, 1933).
- Chanan, Michael, *Repeated takes. A short history of recording and its effects on music* (London, Verso Books, 1994).
- Chandler Jr., Alfred D., *Strategy and Structure: Chapters in the History of the American Industrial Enterprise* (Cambridge, Mass., 1962).
- Chandler Jr., Alfred D., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass., Harvard University Press, 1977).
- Chapple, Steve, and Reebee Garofalo, *Rock 'n' Roll is Here to Pay: The History and Politics of the Music Industry* (Chicago, 1977).
- Coopey, Richard, "Popular Imperialism: The British Pop Music Industry 1950-1975," working paper, Business History Unit, London School of Economics.
- Davenport, Jenny, "Lewis, Sir Edward Roberts (1900–1980)," in *Dictionary of Business Biography: A Biographical Dictionary of Business Leaders Active in Britain in the Period 1860–1980*, eds. David J. Jeremy and Christine Shaw (London, 1985), 757–60.
- Dosi, Giovanni, Richard R. Nelson and Sidney G. Winter, "Introduction," in Dosi, Nelson and Winter eds., *The nature and dynamics of organizational capabilities* (Oxford, Oxford University Press, 2000).
- Dowd, T. J., "Diversificazione Musicale e Mercato Discografico negli Stati Uniti, 1955–1990," *Rassegna Italiana di Sociologia* 41 (Apr.–June 2000): 223-255.
- Entertainment Retailers Association, *Statistical Yearbook* (London, 2005- 2008)
- Fetthauer, Sophie, *Deutsche Grammophon: Geschichte eines Schallplattenunternehmens im "dritten Reich"* (Hamburg, Von Bockel, 2000).
- Gander, Jonathan, and Alison Rieple, "How Relevant Is Transaction Cost Economics to Inter-firm Relationships in the Music Industry?" *Journal of Cultural Economics* 28 (2004), 57-79.
- Gelatt, Roland, *The fabulous phonograph, 1877-1977* (New York, 1954, 2nd rev. ed., Collier, 1977).
- Gourvish, Terence, and Kevin Tennent, "Peterson and Berger revisited: Changing market dominance in the British popular music industry, c.1950-80," *Business History* 52 (2010), 187-206.
- Graham, Daniel, "Wider economic effects of transport improvements: links between agglomeration and productivity --- Stage 2 Report" (London, Department for Transport / Imperial College Centre for Transport Studies, 2006).

- Harker, Dave, *One for the Money: Politics and Popular Song* (London, Hutchinson, 1980).
- Hennion, Antoine, *Les Professionnels du Disque: Une Sociologie des Variétés* (Paris, A. M. M. Taill / SEPC, 1981).
- Hirsch, Paul M., "Organizational Effectiveness and the Institutional Environment," *Administrative Science Quarterly* 20 (Sept. 1975): 327–44.
- Hull, Geoffrey P., *The Recording Industry* (New York, Allyn and Bacon, 2nd ed., 2004).
- Huygens, Marc, *Coevolution of Capabilities and Competition: A Study of the Music Industry* (Rotterdam, Rotterdam School of Management, 1999).
- Jacobs, Janet, *The economy of cities* (New York, Vintage Books, 1970; orig. ed. 1969).
- Johnston, Louis D., and Samuel H. Williamson. "What Was the U.S. GDP Then?" (MeasuringWorth, 2010), <http://www.measuringworth.org/usgdp/>
- Jones, Geoffrey, "The Gramophone Company: An Anglo-American Multinational, 1898-1931," *Business History Review* 59 (1985), 76-100.
- Jones, Geoffrey, *The Evolution of International Business: An Introduction* (London, 1996).
- Kretschmer, Martin, Charles Baden-Fuller, George Michael Klimis, and Roger Wallis, "Enforcement and Appropriation of Music Intellectual Property Rights in Global Markets," in *Globalisation of Services: Some Implications For Theory and Practice*, ed. Yair Aharoni and Lilach Nachum (London, 2000), 163–96.
- Krueger, Alan, "The Economics of Real Superstars: The Market for Concerts in the Material World," *Journal of Labor Economics* 23 (2005), 1-30.
- Krugman, Paul R. and Maurice Obstfeld, *International Economics. Theory and Policy* (Reading, Mass., Addison-Wesley, 2003).
- Lopes, Paul D., "Innovation and Diversity in the Popular Music Industry, 1969 to 1990," *American Sociological Review* 57 (Feb. 1992), 56–71.
- Lopes, Teresa da Silva, "Brands and the Evolution of Multinationals in Alcoholic Beverages," *Business History* 44 No. 3 (July 2002), 1-30.
- Mabry, Donald J., "The Rise and Fall of Ace Records: A Case Study in the Independent Record Business," *Business History Review* 63 (Fall 1990): 411–50.
- Martland, Peter, "A Business History of the Gramophone Company, 1890–1918" (PhD. diss., Cambridge University, 1992).
- Martland, Peter, *Since Records Began: EMI, the first 100 years* (London, Batsford, 1997).
- McGahan, Anita M., "The Incentive not to Invest: Capacity Commitments in the Compact Disc Introduction," *Research on Technological Innovation, Management and Policy* 5 (1993): 177–97.

- Merrett, David, and Greg Whitwell, "The Empire Strikes Back: Marketing Australian Beer and Wine in the United Kingdom" in *Adding Value: Brands and Marketing in Food and Drink*, eds. Geoffrey Jones and Nicholas Morgan (London, Routledge, 1994), 162–90.
- Mezias, J. and S. Mezias, "Resource partitioning, the founding of specialist firms and innovation: The American feature film industry, 1912-1992," *Organization Science* 11 (2000).
- Monopolies and Mergers Commission, *The Supply of Recorded Music* (London, Her Majesty's Stationery Office, Cm 2599, 1994).
- Negus, Keith, *Music Genres and Corporate Cultures* (New York, Routledge, 1999).
- Officer, Lawrence H. "The Annual Consumer Price Index for the United States, 1774-2009," MeasuringWorth, 2009, <http://www.measuringworth.org/uscpic/>
- Officer, Lawrence H., "What Were the UK Earnings and Prices Then?" MeasuringWorth, 2011. URL: <http://www.measuringworth.com/ukenncpi/>
- Penrose, Edith, *The Theory of the Growth of the Firm* (Oxford, Blackwell, 1959).
- Peterson, Richard A., and David G. Berger, "Cycles in Symbol Production: The Case of Popular Music," *American Sociological Review* 40 (Apr. 1975): 158–73.
- Peterson, Richard A., and David G. Berger, "Entrepreneurship in Organizations: Evidence from the Popular Music Industry," *Administrative Science Quarterly* 16 (Mar. 1971): 97–106.
- Robinson, Joan, *The economics of imperfect competition* (London, MacMillan, 2nd ed. 1969; orig. ed. 1933)
- Rosen, Sherwin, "The economics of superstars," *American Economic Review* 71 (1981), 845-854.
- Rugman, Alan M. and Alain Verbeke, "Location, Competitiveness, and the Multinational Enterprise," in *Oxford Handbook of International Business*, eds. Alan M. Rugman and Thomas L. Brewer (Oxford, Oxford University Press, 2001), 150–80.
- Scott, A. J., "The U.S. recorded music industry: on the relations between organisation, location and creativity in the cultural economy," *Environment and Planning A* Vol. 31 (1999), 1965-1984.
- Sedgwick, John, and Mike Pokorny, "The Risk Environment of Film Making: Warner Brothers in the Inter-War Years," *Explorations in Economic History* 35 (Apr. 1998): 196–220.
- Sutton, John, *Sunk Costs and Market Structure: Price Competition, Advertising and the Evolution of Concentration* (Cambridge, Mass., MIT Press, 1991).
- Sutton, John, *Technology and market structure. Theory and history* (Cambridge Mass., MIT Press, 1998).
- Trautwein, Friedrich, "Merger Motives and Merger Prescriptives," *Strategic Management Journal* 11 (May–June 1990): 283–95.

- U.S. Department of Commerce, *Historical Statistics Of The United States From Colonial Times To 1970* (Washington, U.S. Department of Commerce, 1975).
- Watson, Allan, "Global music city: knowledge and geographical proximity in London's recorded music industry," *Area* 40 No. 1 (2008), 12-23.
- Wilkins, Mira, "When and Why Brand Names in Food and Drink?," in *Adding Value: Brands and Marketing in Food and Drink*, eds. Geoffrey Jones and Nicholas Morgan (London, Routledge, 1994), 15–40.
- Williamson, Oliver E., *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* (New York, 1985).

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